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PUBLIC SEWAGE TREATMENT PLANT CONSTRUCTION

Public Health Service
Washington, D. C.

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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Public Sewage Treatment Plant Construction, 1953
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PUBLIC HEALTH SERVICE
Division of Sanitary Engineering Services
Water Supply and Water Pollution Control Program

Washington : 1955

PUBLIC SEWAGE TREATMENT PLANT CONSTRUCTION - 1954

Introduction

Control of water pollution is an essential and increasingly important phase of the broad water conservation program. Safe water and enough of it are indispensable requirements not only to health and well-being, but to regional and national economic growth.

In many areas of the country, water needs have already approached, and in some have exceeded, the limits of available supplies. With needs mushrooming, the Nation can ill afford to permit water distruction by pollution. The solution to water problems requires adequate planning and construction of water development facilities, plus conservation of available supplies through pollution abatement, to permit repeated re-use by downstream water users. Cleansed water, made available for re-use by public sewage treatment plants and industrial waste control measures, is an essential resource.

This report on the construction of public sewage treatment plants for the calendar year 1954 supplements and brings up to date the information contained in the 1952 and 1953 construction reports (1), (2). It indicates the progress made by municipalities during 1954 in providing the sewage treatment facilities necessary to prevent pollution of water resources on which downstream water users depend.

Sewage Treatment Plant Construction - 1954

Contracts amounting to $227.5 million for 716 sewage treatment plants, including in many places interceptor sewers, were awarded by the Nation's municipalities* during the year. The cost of 366 new plants was $143.2 million. The remaining $84.3 million provided for additions, enlargements or replacements for 350 existing plants.

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* Includes incorporated or unincorporated municipalities; other legal bodies as sanitary districts, counties, towns; significant institutions, resorts, recreational centers, or other population centers, and industries discharging sanitary sewage wastes directly to watercourse. With the exception of facilities constructed at Federal installations, and 4 projects receiving Federal aid under the Defense Housing and Community Facilities Act (P.L. 139, 82nd Congress), contracts represent expenditure of local funds.

TABLE I

SEWAGE TREATMENT PLANT CONSTRUCTION - CONTRACT AWARDS 1954

BY DRAINAGE BASIN & TYPE OF CONSTRUCTION*

DRAINAGE BASIN	TOTAL		NEW PLANTS		ADDITIONS, ENLARGEMENTS, REPLACEMENTS, ETC.	
	NO.	COST ($)	NO.	COST ($)	NO.	COST ($)
United States	716	227,517,906	366	143,231,874	350	84,286,032
Northeast	37	7,146,421	12	1,790,247	25	5,356,174
North Atlantic	130	87,228,304	49	65,641,916	81	21,586,388
Southeast	50	12,797,263	34	8,401,428	16	4,395,835
Tennessee	11	1,571,097	10	1,422,097	1	149,000
Ohio	60	37,725,101	32	23,789,434	28	13,935,667
Lake Erie	13	9,716,477	6	2,476,708	7	7,239,769
Western Great Lakes	50	22,178,980	27	16,361,475	23	5,817,505
Upper Mississippi	78	14,475,470	46	5,290,038	32	9,185,432
Missouri	60	4,506,350	41	2,359,074	19	2,147,276
Southwest-Lower Mississippi	61	9,143,458	35	4,915,910	26	4,227,548
Western Gulf	39	5,561,461	21	3,448,015	18	2,113,446
Colorado	7	600,683	3	295,000	4	305,683
Great Basin	13	3,951,997	8	3,073,511	5	878,486
California	63	7,566,653	14	1,734,799	49	5,831,854
Pacific Northwest	44	3,348,191	28	2,232,222	16	1,115,969

* Contracts are for sewage treatment plant and/or interceptor sewer construction

Table I shows the number and type of construction projects for which contracts were awarded in 1954, in each of the Nation's 15 major drainage basin areas.

Construction Record 1948 - 1954

To provide a basis for comparison of the actual construction accomplished (removing the variable of cost fluctuation), expenditures for each of the past seven years have been adjusted to 1950 dollars, by applying the Engineering News-Record Construction Index. (See the last column of Table II.) On this basis, the actual amount of construction in 1954 was 21 per cent greater than that in 1953 but was nevertheless 4 per cent less than the peak year of 1950.

Construction Record Compared to Needs

It is currently estimated that expenditures of some $250 million per year for construction of municipal sewage treatment works (including interceptors) are required to keep pace with needs developing as a result of population increases and plant obsolescence. The 1954 rate of expenditure ($227.5 million) does not reach this sustaining level although it is greater in dollar-amount than any previous year. The tremendous backlog of needed plant construction remains virtually untouched. Although methods for calculating these needs have been refined, resultant figures support the conclusion that the construction backlog approaches $2 billion.

TABLE II*

SEWAGE TREATMENT PLANT CONSTRUCTION CONTRACT AWARDS**

1948-1954

YEAR	CONTRACT AWARD VALUE	
	ACTUAL DOLLARS (Millions)	1950 DOLLARS*** (Millions)
1915-1950 ave.		141
1948	158	175
1949	180	194
1950	203	203
1951	177	168
1952	137	123
1953	191	162
1954	228	196

* Based on records maintained by U. S. Department of Commerce, Facilities and Construction Bureau, for period 1915-51.

** Construction is for sewage treatment plants and interceptor sewers.

*** Engineering News Record Construction Cost Index used to translate actual dollar value to 1950 dollars.

Analysis of 1954 Construction Record

In Table III, construction data are distributed according to the size of the population groups to be served by the facilities, and the type of construction (new plants or improvements to existing plants). Following the general pattern evident in 1952 and 1953, projects built by municipalties of less than 25,000 people made up 78 per cent of the total number. However, the cost of these projects amounted to only 37 per cent of the total expenditures. These smaller communities accounted for 92 per cent of the new plants and 63 per cent of the additions, enlargements, and replacements, although they spent only 37 per cent and 36 per cent respectively of the totals for the two types of construction.

TABLE III

SEWAGE TREATMENT PLANT CONSTRUCTION CONTRACT AWARDS IN 1954
BY POPULATION SIZE & TYPE OF CONSTRUCTION
(All costs in thousands of $)

POPULATION RANGE	TOTAL				NEW PLANTS				ADDITIONS, ENLARGEMENTS, REPLACEMENTS, ETC.			
	FOR RANGE		CUMULATIVE %		FOR RANGE		CUMULATIVE %		FOR RANGE		CUMULATIVE %	
	NO.	COST	NO.%	COST %	NO.	COST	NO.%	COST %	NO.	COST	NO.%	COST %
Total	716	227,518			366	143,232			350	84,286		
Less than 2,500	313	21,805	44	10	228	17,484	62	12	85	4,320	24	5
2,500-5,000	98	14,289	57	16	47	8,890	75	18	51	5,398	39	12
5,000-10,000	73	20,177	68	25	33	11,522	84	26	40	8,655	50	22
10,000-25,000	73	27,173	78	37	29	15,123	92	37	44	12,050	63	36
25,000-50,000	39	19,573	83	45	10	10,704	95	44	29	8,869	71	47
50,000-100,000	29	30,181	87	59	8	14,190	97	54	21	15,991	77	66
100,000-250,000	32	27,035	92	70	4	14,850	98	65	28	12,185	85	80
250,000-500,000	24	51,057	95	93	2	43,507	99	95	22	7,551	91	89
500,000-1,000,000	7	6,213	96	96	3	5,449	99	99	4	762	93	90
1,000,000 or over	28	10,016	100	100	2	1,513	100	100	26	8,505	100	100

The basic data upon which this report is based were obtained from:

(a) F. W. Dodge Corporation daily reports on sewage treatment plant and interceptor sewer contract awards in 37 eastern States.

(b) Construction news periodicals, such as the Pacific Builder and Architect, Rocky Mountain Construction News Bulletin, Southwest Builder and Contractor.

A list of projects for each State was compiled and sent to the State water pollution control authority for examination, correction and return.

References

(1) Public Sewage Treatment Plant Construction 1952, PHS Pub. 291

(2) Public Sewage Treatment Plant Construction 1953, PHS Pub. 409

(3) Water Pollution in the United States, PHS Pub. 64 (1951)

(4) Summary Reports on Water Pollution for the 15 Major Drainage Basins:

California Drainage Basin, PHS Pub. 86
Colorado River Drainage Basin, PHS Pub. 110
Great Basin Drainage Basin, PHS Pub. 82
Lake Erie Drainage Basin, PHS Pub. 119
Missouri River Drainage Basin, PHS Pub. 78
New England Drainage Basin, PHS Pub. 88
North Atlantic Drainage Basins, PHS Pub. 111
Ohio River Drainage Basin, PHS Pub. 136
Pacific Northwest Drainage Basin, PHS Pub. 87
Southeast Drainage Basins, PHS Pub. 153
Southwest-Lower Mississippi Drainage Basins, PHS Pub. 160
Tennessee River Drainage Basin, PHS Pub. 69
Upper Mississippi Drainage Basins, PHS Pub. 150
Western Great Lakes Drainage Basins, PHS Pub. 143
Western Gulf Drainage Basins, PHS Pub. 92

(5) Popular Digests of Summary Reports for 9 Basins:

Clean Water in the Arkansas-White-Red and Lower Mississippi Valleys, PHS Pub. 252
From the Hudson to the Potomac - Clean Waters, PHS Pub. 202
Clean Water in the Missouri, PHS Pub. 151
Clean Water for New England, PHS Pub. 199
Cleaner Water for the Ohio, PHS Pub. 203
Clean Water for the Pacific Northwest, PHS Pub. 201
Clean Water for the South, PHS Pub. 259
Clean Water for the Tennessee, PHS Pub. 271
Clean Water for the Western Great Lakes Region, PHS Pub. 267

References (Cont'd)

(6) Comprehensive Program Documents:

Central Columbia River Basin, PHS Pub. 381
Green Bay Western Shore Drainage Basin, PHS Pub. 368
Humboldt River and Central Nevada Basins, PHS Pub. 294
Lake Superior Drainage Basin, PHS Pub. 367
Minnesota River Basin, PHS Pub. 365
Mississippi-Des Moines-Skunk Rivers Basin, PHS Pub. 314
Mississippi-Iowa-Cedar Rivers Basin, PHS Pub. 346
Mississippi-Salt Rivers Basin, PHS Pub. 366
Mississippi-Wapsipinicon & Tributaries Rivers Basin, PHS Pub. 347
Missouri Drainage Basin, PHS Pub. 317
Rainy River Basin, PHS Pub. 380
Red River of the North Basin, PHS Pub. 293
St. Croix River Basin, PHS Pub. 335
Yakima River Basin, PHS Pub. 292

APPENDIX

SEWAGE TREATMENT PLANT CONSTRUCTION CONTRACTS AWARDED DURING THE YEAR 1954

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Alabama		
Albertville	New Plant	$ 152,800
Birmingham-Village Creek Plant	Addition	1,156,086
Florence	New Plant	390,000
Grove Hill	New Plant	16,551
Montgomery	New Plant	1,557,130
Stevenson	New Plant	-- ---
Arizona		
Clifton	Replacement	150,670
Elroy	New Plant	50,000
Florence	Replacement	54,000
Tuba City	Addition	50,200
Arkansas		
Batesville	New Plant	95,500
Corning	New Plant	47,000
Danville	New Plant	15,000
DeQueen	New Plant	66,000
El Dorado	New Plant	138,461
Eureka Springs	New Plant	70,000
Hot Springs	2 Enlargements	611,884
Hoxie	New Plant	35,000
Little Rock-Meadow Cliff Addition	New Plant	30,000
McGehee-McGehee Spec. Sch. Dist.	New Plant	7,350
Marvell	New Plant	55,000
California		
Anaheim	Interceptor	20,867
	Interceptor	154,596
	Interceptor	54,654
Bakersfield	Interceptor	131,986
	Improvement	10,502
Big Sur Pfeiffer Big Sur State Park	New Plant	17,893
Camarillo State Hospital	Improvement	11,489
Concord	Addition	97,384
Corona	Outfall	13,400

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
California (Cont.)		
Cotati Public Utility Dist.	New Plant	$ 63,490
El Cerrito Stege San. Dist.	New Plant	87,696
Escondido	Addition	14,056
Fillmore	New Plant	238,060
Gallinas Village Sub-Division	New Plant	35,000
Holtville	Outfall	45,562
Huron	New Plant	49,074
Lake Arrowhead Arrowhead San. Dist.	New Plant & Interceptors	587,640
Lincoln	New Plant	145,000
Los Alamitos	Interceptor	120,310
Los Angeles	Interceptor	27,091
Mira Loma Medium Security Temporary Facilities	Improvements	18,888
Los Angeles Co. San. Dists.	Outfall	94,860
	Outfall	186,031
	Interceptor	145,621
	Improvements	62,850
Los Angeles Co. San. Dist. #2	Outfall	153,378
	Interceptor	42,407
	Outfall	512,751
	Outfall	484,800
	Outfall	735,602
	Interceptor	82,969
	Interceptor	123,455
Los Angeles Co. San. Dist. #5	New Plant	28,300
Los Angeles Co. San. Dist #8	Improvements	18,381
	Interceptor	12,310
Los Angeles Co. San. Dist. #21	Interceptor	158,250
	Improvements	32,460
	Outfall	193,996
	Outfall	56,448
	Outfall	223,893
Lodi	Addition	175,000
Marrin County Terra Linda Sub-Division	New Plant	120,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
California (Cont.)		
Martinez	New Plant	$ 274,445
Montalvo	New Plant	36,928
Niland	New Plant	31,871
North San Mateo Co. San. Dist.	New Plant	424,676
Oakland	Interceptor	123,750
Oceanside	Improvements	1,200
Ojai	Improvements	24,163
Ora Loma San. Dist.	Enlargement	163,182
Orange County San. Dist.	Improvements	3,292
Petaluma Two Rock Ranch Station	New Plant	119,721
Point Mugu U.S.N Test Center	Improvements	2,987
Rubidoux	New Plant	134,557
Salton Sea Base	Replacement	17,000
San Diego	Improvements	178,780
	Improvements	15,196
	Outfall	2,738
	Outfall	24,732
San Francisco County Jail	Improvements	13,440
San Mateo	Enlargement	395,658
Santa Clara County San. Dist. #3	Interceptor	67,875
San Dist. #8	New Plant	198,019
Santa Cruz	Outfall	206,000
Santa Maria	Interceptor	6,149
Seal Beach Intermediate Sch.	New Plant	8,586
Sharp Park San. Dist.	Addition	125,332
Spadra Pacific State Hosp.	Outfall	38,860
Ventura	Improvements	7,450
Pierpont School	Improvement	1,654
Watsonville	Enlargement & Interceptor	535,671
Colorado		
Clear Creek Valley San. Dist	Improvements	16,687
Denver - No. Wash. Street San. Dist	New Plant	134,355
Otis	New Plant	6,000
Rifle	Outfall	30,400
Thornton	Enlargement	$ 75,000
Western Hills	New Plant	120,000
Westminister San. Dist.	Enlargement	52,185
Wheatridge	Addition	42,474
Connecticut		
Danbury	Enlargement	283,926
East Hartford	Interceptor	319,940
	Interceptor	124,433
Groton	New Plant	520,676
	Outfall	29,949
Pleasant Valley School	New Plant	30,400
New Canaan	Improvements	6,468
Norwalk	Improvements	5,872
Waterbury	Interceptor	220,142
Delaware		
New Castle County	Interceptor	104,706
County Airport	Interceptor	13,600
Chestnut Run Interceptor	Interceptor	19,555
Murphy Road Interceptor	Interceptor	19,630
South Christiana Interceptor	Interceptor	180,602
Stockdale Interceptor	Interceptor	176,921
Turkey Run Interceptor	Interceptor	142,280
Northland Interceptor	Interceptor	119,985
District of Columbia		
Columbia Island Marina	New Plant	7,027
Florida		
Alachua County Duval Elementary School	New Plant	12,000
Azalea Terrace San Dist.	New Plant	18,000
Bradentown	New Plant	560,267

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Florida (Cont.)		
Broward County		
So. Fla. Mental Hospital	New Plant	$ 100,000
Housing Development	New Plant	75,000
Coral Gables	New Plant	2,657,638
Dade County		
Community Utilities Corp. Housing	New Plant	171,000
Myrtle Grove San. Dist.	New Plant	116,646
Duval County		
Cedar Hills San. Dist.	New Plant	60,000
Gainesville		
Farm Colony Site	New Plant	134,950
Hillsborough County		
Gandy Blvd. Park	New Plant	9,000
MacDill Estates	New Plant	15,000
Hollywood	New Plant	794,700
Jasper	New Plant	40,000
Juniper		
Sunny Sands Trailer Park	New Plant	5,000
Kissimmee	Enlargement	169,000
Largo	New Plant	70,000
Miami		
Larchmont Gardens	New Plant	20,000
Marine Air Station	New Plant	229,840
Norma Park	New Plant	12,000
Pompano Beach		
Lyons Park San. Dist.	New Plant	75,000
West Palm Beach		
Lewis Shores Estates	New Plant	55,009
Winter Garden	Addition	5,000
Georgia		
Americus	2 New Plants	452,690
Cordele	New Plant	333,737
Quitman	New Plant	74,230
Smyrna	Replacement	139,000
Sylvania	Replacement	187,058
Idaho		
Challis	New Plant	39,000
Kimberly	New Plant	75,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Illinois		
Alma		
Community Unit District 301	New Plant	$ 8,000
Beckmeyer	New Plant	14,100
Bloom Twp. San. Dist.	Addition	1,372,224
Chicago San. Dist.	Improvements	112,173
	Interceptor	1,556,800
Deerfield	New Plant	336,414
Dwight	New Plant	171,294
East Dundee	New Plant	183,750
Elburn	New Plant	82,800
Elmhurst	Enlargement	125,678
Granite City	Interceptor	1,000,000
Great Lakes		
Naval Training Center	Improvements	7,285
Hazelcrest	New Plant	-- ---
Homewood		
Ely's Trailer Park	New Plant	-- ---
Iuka		
Community Sch. Dist. #7	New Plant	23,877
La Grange		
Chicago House of Correction	New Plant	-- ---
Field Club	Addition	-- ---
Leaf River	New Plant	110,000
Milan	New Plant	54,989
Minonk	New Plant	180,459
Morris	New Plant	223,850
Oak Forest		
Curbe's Trailer Park	New Plant	-- ---
Raymond	Enlargement	44,692
Shannon	New Plant	44,387
Sheridan	New Plant	60,000
Toulon	Addition	50,000
Urbana-Champaign San. Dist.	Addition	94,091
Villa Park		
Salt Cr. San. Dist.	Enlargement	157,222
Waukegan	Interceptor	219,848
Indiana		
Brownsburg	New Plant & Interceptors	490,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Indiana (Cont.)		
Brownstown	New Plant	$ 92,238
Bunkerhill Naval Air Station	Enlargement	203,823
Elkhart	New Plant	1,056,300
	Interceptors	346,739
Evansville West Side Plant	New Plant & Interceptors	4,400,000
Greensburg	Replacement & Interceptors	725,000
Indianapolis	Interceptor	250,000
	Improvement	23,000
Kokomo	Addition	1,125,033
Lafayette	New Plant & Interceptors	2,275,000
Muncie	Enlargement & Interceptors	3,600,000
Rising Sun	New Plant	84,485
Rochester	Enlargement	318,833
Scottsburg	Improvements	101,100
South Bend	New Plant & Interceptors	8,500,000
Speedway	New Plant & Interceptor	975,000
Iowa		
Algona	New Plant	277,450
Belmond	Replacement	133,815
Breda	Interceptor	1,200
Carlisle	New Plant	56,590
Cedar Rapids	Enlargement (Part)	599,501
	Enlargement (Part)	807,930
	Interceptor	387,255
	Interceptor	168,428
Clarinda	Addition	259,370
Des Moines	Enlargement	938,890
Fort Dodge	Enlargement	181,762
	Interceptor	153,690
	Interceptor	2,500
Garnavillo	New Plant	94,985
Gowrie	New Plant	96,074
Grundy Center	Replacement	144,286
Iowa Great Lakes San. Dist.	Interceptor	275,000
Miles Miles Consolidated School	New Plant	6,228
Prarie City	New Plant	49,030
Toledo	Replacement	68,600
West Union	Addition	$ 44,278
Winfield	Improvements	37,291
Kansas		
Almena	Replacement	55,000
Augusta	Improvements	46,000
Beloit	New Plant	160,224
Bennington	New Plant	37,500
Bird City	New Plant	85,000
Blue Rapids	New Plant	58,366
Chapman	New Plant	38,730
Colby	Enlargement	147,854
De Soto	New Plant	40,000
Downs	Replacement	60,000
Enterprise	New Plant	44,987
Goessel	New Plant	30,000
Jetmore	New Plant	55,280
Manhattan	New Plant	268,000
Mankato	New Plant	65,000
Osborne	Replacement	80,652
Peabody	New Plant	82,998
Sedgwick County Park City Development	Addition	100,000
Sharon Springs	Replacement	57,023
Wichita	Enlargement	1,513,000
Wyandotte Twp. San. Dist. #9	New Plant	100,000
Kentucky		
Barlow	New Plant	29,000
Calvert City	New Plant	68,125
Henderson	New Plant	624,150
	Interceptor	434,467
Jefferson County Middletown School	New Plant	11,500
Louisville South Park Elementary School	New Plant	34,644
Louisiana		
Franklinton	Improvements	9,747
Kaplan	Addition	27,790
Shreveport Elementary School	New Plant	25,259
Springhill	Addition	127,900
Thibodaux	New Plant	-- ---

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Maine		
Charleston		
Air Force Installation	Improvements	$ 1,936
Naples		
Sebago Lake State Park	New Plant	56,798
Maryland		
Annapolis		
Pumphrey Elem. Sch.	Addition	8,411
Baltimore		
Back River Plant	Enlargement	447,745
	Improvements	32,923
Cecil County		
Miller Corner Sch.	New Plant	12,740
Crisfield		
University of Md. Lab.	New Plant	8,390
Ellicott City		
Baltimore Mental Hygiene Central Farm	New Plant	24,420
Fort George G. Meade	New Plant	604,000
Jessups		
Maryland House of Correction	Addition	3,200
Patuxent Naval Air Station	Improvements	13,965
Taneytown	New Plant & Interceptors	483,196
Washington Sub. San. Commission	Interceptor	274,539
Massachusetts		
Andover	New Plant	50,000
Blanford Elementary School	New Plant	8,300
Boston		
Fort Hill	Improvements	2,675
Concord	Enlargement	94,753
Marion	Improvements	47,400
Natick-Framingham	Interceptor	813,297
Scituate		
Jenkins Elem. Sch.	New Plant	9,863
Southborough	Improvements	16,800
Michigan		
Albion	Interceptor	216,885
Alpena	New Plant	703,763
Birmingham	Enlargement	40,000
Boyne City	New Plant	221,103
Cheboygan	New Plant	380,000
Eaton Rapids	New Plant	213,000
Frakenmuth	New Plant	499,170
Grand Rapids	New Plant (Part)	1,820,040
	New Plant (Part)	129,970
Lake Odessa	New Plant	177,565
Marshall	New Plant	237,450
Otsego	New Plant	204,679
Parchment	New Plant	123,300
Plainwell	New Plant	139,300
Reed City	Replacement	113,934
Saline	New Plant	182,360
Three River	New Plant	589,300
Trenton	Interceptor	198,597
Warren		
Green Acres Sub. Div.	New Plant	81,136
West Branch	New Plant	150,132
Whitehall	New Plant	248,156
Williamston	New Plant	126,000
Minnesota		
Albany	New Plant	165,000
Albertville	New Plant	-- ---
Anoka	New Plant	514,000
Anoka St. Hosp.	Interceptor	63,000
Babbitt Townsite	New Plant	80,000
Browns Valley	New Plant	140,000
Carlton	New Plant	85,000
Crookston	Interceptor	125,000
Crystal	Interceptor	1,030,000
Eyota	New Plant	89,000
Fridley	Interceptor	426,000
Golden Valley	Interceptor	731,000
Harmony	New Plant	128,551
Mankato	Interceptor	340,000
Maynard	New Plant	51,000
New London	New Plant	-- ---
Ogilvie	New Plant	87,059
Pipestone	Addition	90,000
Rosemont	New Plant	78,000
St. Charles	New Plant	189,000
St. Paul Park	New Plant	160,000
Spicer	New Plant	-- ---
Warren	New Plant	100,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Mississippi		
Jackson		
Canton Club Sub-Div.	New Plant	$ 23,032
Moss Point	New Plant	166,465
Missouri		
Columbia	Enlargement	600,000
Concordia North Plant	New Plant	55,832
Fredericktown	Replacement	80,000
Gallatin	New Plant	54,423
Golden City	New Plant	46,000
Jackson	Replacement	259,555
Knobnosten	New Plant	51,254
Lockwood	New Plant	50,000
Moberly	Replacement	437,795
Nevada	2 New Plants	365,000
Ozark	New Plant	118,812
Perry	New Plant	5,700
Perryville	New Plant	177,000
Platte County Mid-Continent Airport	New Plant	227,680
Rolla	Replacement	317,250
St. Louis Lambert Airport	New Plant	16,843
St. Louis County Washington Elem. Sch. & High Sch.	2 New Plants	32,374
Salisbury	Replacement	88,670
Sikeston	New Plant	660,569
Montana		
Absarokee	New Plant	24,000
Charlo	New Plant	11,000
Chester	New Plant	15,000
Circle	New Plant	34,546
Denton	New Plant	7,296
Dillon	New Plant	22,199
East Helena	New Plant	52,707
Fort Keogh	New Plant	21,000
Glasgow	Interceptor	93,061
Jordan	New Plant	30,000
Nebraska		
Campbell	New Plant	13,490
Ceresco	New Plant	$ 7,900
Murray	New Plant	15,000
Omaha San. District #6	New Plant	79,900
Plymouth	New Plant	7,151
Stromsburg	New Plant	41,240
Nevada		
East Ely	New Plant	-- ---
Fallon	New Plant	175,000
Las Vegas		
Sands Hotel	Additions	26,750
Stardust Hotel	New Plant	125,000
Reno	Addition	74,433
Sparks	Addition	442,654
New Hampshire		
Glencliff State Sanatorium	Addition	15,876
New Jersey		
Asbury Park	Addition	345,437
Bergenfield-Dumont	Improvements	2,485
Bridgeton	Addition	836,658
Cumberland County Hosp. & Farm	New Plant	35,722
Deal	Improvements	33,586
Delaware Twp. Pennsauken Creek Dist. #2	New Plant	111,450
Eatontown	New Plant	34,566
Garden State Parkway Authority	5 New Plants	433,271
Gibbstown	New Plant	286,262
Hanover Twp.	Enlargement	388,755
Hasbrouck Heights	Addition	83,384
Jersey City	2 New Plants & Interceptors	29,806,552
Keansburg	Improvements	9,000
Kearny	New Plant	2,419,881
Lakehurst	New Plant	81,700
Lake Wapalanne Stokes Forest Pk.	New Plant	50,997
Lambertville Sewerage Authority	New Plant	-- ---

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
New Jersey (Cont.)		
Monmouth County Camp Charles Wood	Improvements	$ 2,963
Morristown	Addition	338,100
Mt. Holly Auth.	Addition	137,958
New Jersey Highway Authority	2 New Plants	101,460
New Jersey Turnpike Authority	New Plant	121,590
Parsippany-Troy Hills	New Plant	251,500
Pemberton	New Plant	90,334
Pennsauken Sewerage Authority	New Plant	800,000
Piscataway Twp. Fellowship Farm School	New Plant	14,674
Princeton	Improvements	74,955
Rahway Valley Sewerage Auth.	Improvements	25,000
	Interceptor	235,797
Swedesboro	New Plant	206,688
Woodbine State Colony	New Plant	203,842
Woodbridge	Interceptor	855,658
New Mexico		
Alamogordo	Addition	104,500
Albuquerque	Addition	135,000
Aztec	Improvements	9,581
Belen	Improvements	6,978
Crystal Day School	Addition	1,000
Hobbs	Enlargement	189,000
Las Cruces	Interceptor	124,141
Ramah School	New Plant	2,500
San Juan	New Plant	6,000
Santa Fe	Addition	16,139
Standing Rock	New Plant	2,000
State Penitentiary	New Plant	32,900
Truth or Consequences	New Plant	25,000
New York		
Binghamton	Interceptor	369,693
Brewster	New Plant	378,460
Cheektowaga	Enlargement	446,385
Chenango Forks Chenango Valley State Park	New Plant	7,900
East Hampton Newton School	New Plant	$ 10,443
Farmingdale Long Island Agriculture & Technical School	Replacement	189,896
Getzville St. Rita's Home for Children	Replacement	8,825
Irondequoit	Addition	154,217
Islip Oakdale School	New Plant	25,000
Model City	Improvements	30,000
Nassau County Bay Park Plant	Improvements	59,415
New Rochelle	New Plant	1,948,018
New York Bowery Bay Plant	New Plant	13,700,250
	Interceptors	3,243,930
Canal St. Plant	Improvements	8,442
Coney Island Plant	Improvements	4,532
Jamica Plant	Improvements (Part)	14,700
	Improvements (Part)	6,776
	Improvements (Part)	16,783
Oakwood Beach Plant	New Plant	3,973,034
	Improvements	6,489
Wards Island Plant	Improvements	29,253
	Improvements	6,459
New York Thruway Authority	4 New Plants	462,090
	2 New Plants	239,183
	3 New Plants	274,937
	New Plant	145,633
Niagara Falls Air Force Base	New Plant	41,000
Ogdensburg St. Lawrence State Hospital	New Plant	101,750
Owasco Emerson Park	Interceptor	5,500
Poughkeepsie	Interceptor	75,613
Ronkonkoma Lakeland Fire District	New Plant	2,350

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
New York (Cont.)		
Stony Point Palisades Interstate Parkway	New Plant	$ -- ---
Suffolk County Air Force Base	Improvements	32,000
Wassaic Wassaic State Sch.	Enlargement	72,996
West Point Military Academy	2 New Plants & Interceptors	1,001,279
North Carolina		
Burlington	Improvements	16,949
Charlotte Irwin Creek Plant	Additions (Part)	2,046,358
	Additions (Part)	65,325
	Additions (Part)	55,328
Conover	New Plant	11,000
Cullowhee	New Plant	150,290
Durham Duke University	Outfall	24,314
Gaston County Costner School	New Plant	-- ---
Gastonia N.C. Orthopedic Hospital	Improvements	11,819
Haywood County Bethel Elementary School	New Plant	6,565
Kings Mountain	New Plant	115,739
Raleigh	Outfall	332,139
Roanoke Rapids Air Force Base	New Plant	308,473
Southern Pines	Outfall	11,162
Weeksville Naval Air Station	Addition	61,794
North Dakota		
Cavalier	New Plant	30,000
Center	New Plant	17,000
Dunn Center	New Plant	12,000
Elgin	New Plant	13,400
Flasher	New Plant	15,000
Medena	New Plant	18,000
Minnewaukan	New Plant	13,000
Minto	New Plant	$ 15,000
New England	New Plant	20,000
Northwood	New Plant	10,296
Rolla	New Plant	24,000
Wild Rose	New Plant	8,700
Ohio		
Akron	Enlargement (Part)	967,248
	Enlargement (Part)	933,841
Ashtabula	New Plant	1,087,606
Ashtabula County Pymatuning State Park	New Plant	22,017
Batavia	New Plant	150,745
Chardon	Enlargement	94,756
Cincinnati Mill Cr. Plant	New Plant	5,012,940
Clyde	New Plant	381,710
Columbus	Enlargement	1,011,936
	Addition	481,413
Coshocton	New Plant	493,781
Dalton	New Plant	61,475
Dayton	Interceptor	149,553
	Addition	66,970
Delphos	Interceptor	71,685
	Enlargement	226,000
East Canton	New Plant	-- ---
Franklin County Lockbourne Air Force Base	Enlargement	107,000
Hamilton	Interceptor	1,043,000
Lisbon	Interceptor	119,682
	New Plant	239,905
Lorain	New Plant & Interceptors	1,681,460
Lucas	New Plant	40,000
Mansfield	Improvements	7,547
Maple Heights	New Plant	198,276
Marietta	Interceptors	631,263
	New Plant	949,890
Marysville	Replacement	244,744
	Interceptor	36,897
Medina	Addition	82,193
Minerva	Replacement	133,921
Nelsonville	New Plant	24,951
Newcomerstown	New Plant	225,326
	Interceptorr	100,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Ohio (Cont.)		
New Philadelphia	New Plant & Interceptors	$ 600,000
Oberlin	New Plant	246,500
Oxford	Enlargement	182,997
Port Clinton	New Plant	446,825
	Interceptor	93,774
Steubenville	New Plant	1,685,000
Tiffin	Interceptor	910,264
Wadsworth	New Plant	366,500
	Interceptor	99,000
Oklahoma		
Blackwell	New Plant	262,370
Cherokee	Replacement	72,754
Clinton	Improvements	14,667
Comanche	New Plant	38,714
Davis	Enlargement	57,489
Del City	New Plant	275,000
Erick	Enlargement	25,000
Fairfax	New Plant	45,450
Frederick	Enlargement	37,000
Guyman	New Plant	170,000
Hobart	Enlargement	77,000
Hollis	Improvements	40,389
Madill	Enlargement	36,485
Marshall County Lake Texhoma Lodge	New Plant	80,000
Midwest City Holman Addition	New Plant	39,550
Moore	Enlargement	35,794
Ponca City	New Plant	311,000
Tulsa Flat Rock Plant	Replacement	440,025
Waynoka	Replacement	141,449
Yukon	Enlargement	55,745
Oregon		
Carlton	Replacement	102,947
Cottage Grove	Improvements	14,898
Gladstone	Interceptor	57,751
Gresham	New Plant	186,212
Marylhurst	New Plant	33,000
Mollalla	New Plant	101,000
Mt. Angel	New Plant	102,361
Oswego	New Plant	123,095
Portland	Interceptor	163,259
Rockaway	New Plant	115,050

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Oregon (Cont.)		
Salem	Improvements	$ 23,000
Sheridan	New Plant	79,143
Springfield	Outfall	36,875
	Improvements	57,589
Tillamook	Addition	6,000
Toledo	New Plant	103,215
	Interceptors	44,071
Vale	New Plant	32,543
West Lynn	New Plant	4,800
	Interceptor	17,555
Willamette Manor	New Plant	22,000
Pennsylvania		
Abington Twp.	Improvements	62,825
Alburtis	Addition	3,100
Allentown Klines Island Plant	Improvements	90,702
Bellwood	Addition	86,356
Clarks Summit State Hospital	Replacement	294,103
Corry	New Plant	525,409
Erie	Enlargement	3,953,782
Fountain Hill	Interceptor	173,369
Glen Riddle Our Lady of Angels Convent	Enlargement	50,000
Harmony	Addition	69,000
Lancaster Howard Johnson's Restaurant	New Plant	12,950
Lower Marion Twp.	Interceptors	1,341,845
Millersburg	New Plant	171,601
Morrisville	New Plant	830,696
	Interceptors	500,000
Norristown	Addition	125,414
Palmyra	New Plant	625,070
Philadelphia	Interceptors	614,919
	Interceptors	82,419
	Interceptors	839,490
	Interceptors	86,625
	Interceptors	49,798
	Interceptors	341,898
	Interceptors	33,966
	Interceptors	614,919
	Interceptors	108,398
Northeast Plant	Improvements	24,414
	Improvements	4,361

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Pennsylvania (Cont.)		
Northeast &Southwest Plant	Improvements	$ 168,176
Southwest Plant	Enlargement	310,975
Southeast Plant	New Plant (Part)	398,132
	New Plant (Part)	1,114,557
Radnor-Haverford-Marple Twps.	Enlargement	792,773
Selinsgrove	Addition	18,069
Shillington	Interceptors	1,450,000
Stroudsburg	Enlargement	152,244
Tyrone	Interceptor	63,910
Uniontown	Improvements	3,790
Upper Moreland-Hatboro Joint Sewer Authority	Enlargement	553,077
	Interceptors	663,694
Villa Maria	New Plant	55,000
Westfield	New Plant	87,058
	Interceptor	12,600
West Grove Avon-Grove High School	Addition	17,730
West Lawn	Interceptors	122,693
West Mifflin Boro New England Hollow Watershed Section	New Plant	274,498
Rhode Island		
Blackstone Valley San. Dist.	Interceptor	649,251
	Interceptor	790,000
Newport	Addition	840,000
Fort Adams	New Plant	89,000
Quonset Point Naval Air Station	Enlargement	299,920
South Carolina		
Chesnee	New Plant	23,970
Eau Claire	Replacement	146,150
Gaffney	New Plant	82,361
Hartsville	Addition	20,400
South Dakota		
Brookings	New Plant	310,000
Hartford	Enlargement	17,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
South Dakota (Cont.)		
Hot Springs	Addition	$ 19,000
Lake Andes	Replacement	23,000
Sioux Falls	Improvements	21,000
Sturgis	Enlargement	48,060
Tennessee		
Bell Buckle	New Plant	94,171
Clinton	New Plant	167,365
	Interceptor	149,000
Franklin	New Plant	275,537
Gallatin	Replacement	320,127
Gatlinburg	New Plant	252,781
McMinnville	New Plant	167,890
Nashville	Interceptors	1,730,000
	Interceptors	433,680
South Pittsburg	New Plant	-- ---
Union City	Replacement	319,400
Texas		
Amarillo	Enlargement	796,000
Austin State School Farm Colony	New Plant	52,975
Ballaire	Addition	116,432
Shenandoah Addition	New Plant	18,700
Bonham	Replacement	90,329
Conroe	Enlargement	89,430
Corpus Christi Oso Plant	Enlargement	837,240
Dallas	Improvements	31,980
Gabe P. Allen School	New Plant	21,683
Denison	New Plant	363,185
Earth	New Plant	19,485
El Paso Fort Bliss	Outfall	146,374
Euless	New Plant	-- ---
Galveston County Water Control & Improvement District #14	New Plant	194,500
Grangar	Replacement	32,754
Holliday	New Plant	63,301
Houston	New Plant	134,279
Southwest Plant	New Plant	301,700
Jacksonville	Enlargement	-- ---
Malakoff	New Plant	62,508

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Texas (Cont.)		
Midland	Addition	$ 119,233
Pasadena	New Plant	176,967
Pecos	New Plant	102,256
Perrin Air Force Base	New Plant	112,220
Refugio	Addition	106,440
Roaring Springs	New Plant	20,000
Rockport	Replacement	65,621
Stafford-Missouri City	New Plant	29,617
Tarrant County Saginaw Park	New Plant	40,000
Tyler	New Plant	438,900
	Outfall	78,043
Waco	Replacement	1,566,000
Willis	New Plant	33,090
Utah		
Blanding	New Plant	40,000
Heber City	Replacement	136,328
Midvale	New Plant	270,000
Provo	New Plant	990,000
Salt Lake City Suburban San. District	New Plant	954,000
	Interceptor	179,509
Vermont		
Lyndonville Lyndon Teachers College	New Plant	8,000
Virginia		
Alexandria San. Authority	New Plant	3,636,337
	Interceptor	2,336,447
Arlington	Interceptor	71,070
Covington	New Plant	321,872
East Lexington	New Plant	237,887
Elizabeth City Co. Langley Air Force Base	Improvements	9,156
Fort Monroe	Addition	7,403
Goochland State Institution	Enlargement	20,000
Henrico County San. Dist. #2	Enlargement	128,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Virginia (Cont.)		
Luray	New Plant	$ 100,000
Quantico Melrose Gardens Apartments	New Plant	75,000
Waynesboro	New Plant	359,700
	Interceptor & Outfall	189,000
Washington		
Anacortes	Outfall	34,682
Bingen	New Plant	40,771
Camas	New Plant	170,369
Castle Rock	New Plant	90,701
Cle Elum	New Plant	23,108
Edmonds Lynnwood Jr. High School	New Plant	26,149
Kent	New Plant	239,000
Longview	New Plant	225,156
Mabton	New Plant	47,675
Pateros	New Plant	53,518
Puyallup	Replacement	342,691
Quincy	Replacement	74,177
Seattle Val Vue Sewer District	New Plant	41,543
Southwest Suburban Sewer Dist.	Improvements	93,599
Winslow Military Installation	Addition	7,993
Spokane	Interceptor	38,882
Vashon	New Plant	82,173
Winlock	New Plant	76,560
Yakima County Terrace Heights San. Dist.	New Plant	73,780
West Virginia		
Charleston	New Plant	560,856
	Interceptor	1,030,000
Glendale	Interceptor	12,835
McMechen	New Plant	147,627
Ohio County Wheeling-Ohio County Airport	New Plant	4,682
Wisconsin		
Birnamwood	Addition	22,642

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Wisconsin (Cont.)		
Boscobel	Improvements	$ 31,636
Brown County Pamperin Park	Enlargement	8,700
Caledonia	New Plant	71,900
Cochrane	New Plant	24,552
Columbus	New Plant	180,675
Denmark	Replacement	120,123
Elkhart Lake	Replacement	61,540
Fond du Lac	Addition	40,704
Footville	Addition	59,825
Green Bay	Enlargement	571,702
Kewaskum	Replacement	188,128
Kohler	Addition	79,121
Mayville	Enlargement	194,491
Menomonee Falls	Replacement	166,687
Merrill	New Plant	223,722
North Fond du Lac	Addition	$ 73,019
Plattville	Addition	48,425
Racine	Addition (Part)	146,940
	Addition (Part)	160,401
Reeseville	New Plant	55,437
Wyoming		
Newcastle	New Plant	81,329
Totals for U. S.	366 New Plants	
	350 Other	
	716 Total	$227,517,906

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